



## Imaging

### ELECTROMECHANICAL DELAY DETECTED BY TISSUE DOPPLER ECHOCARDIOGRAPHY IS ASSOCIATED WITH THE FREQUENCY OF ATTACKS IN PATIENTS WITH LONE ATRIAL FIBRILLATION

Poster Contributions

Poster Sessions, Expo North

Sunday, March 10, 2013, 9:45 a.m.-10:30 a.m.

Session Title: Imaging: Echo IX

Abstract Category: 18. Imaging: Echo

Presentation Number: 1227-346

Authors: *Ali Nazmi Çalik, Metin Çağdaş, Barış Güngör, Özcan Serhan, Gürkan Karaca, Ufuk Gürkan, Hale Yaka Yılmaz, Osman Bolca, Siyami Ersek*  
Cardiovascular and Thoracic Surgery Center, Training and Research Hospital, Istanbul, Turkey

**Objective:** To compare atrial electromechanical delays (EMD) of patients with Lone AF with healthy individuals and examine the relationship of AF attack frequency with the determined atrial conduction times and electromechanical delays.

**Method:** 32 healthy individuals and 32 patients with LAF criteria were included. The time from the beginning of the P wave on ECG to the A' wave on tissue Doppler trace was accepted as the atrial conduction time (PA').

**Results:** LA volumes and areas which were higher in Lone Af patients. ILeft-EMD ( $21,8 \pm 9,1$  vs  $14,1 \pm 4,9$ ;  $p < 0,001$ ), IRight-EMD ( $9,3 \pm 6,8$  vs  $5,9 \pm 4,9$ ;  $p = 0,03$ ) and IA-EMD times ( $24,7 \pm 11,2$  vs  $11,9 \pm 7,1$ ;  $p < 0,001$ ) were longer in LAF patients. In multivariate regression analysis, ILeft-EMD times (OR: 1.14, 95% CI: 1.03-1.27;  $p = 0.012$ ), IA-EMD times (OR: 1.12, 95% CI: 1.03-1.23;  $p = 0.007$ ) and LA volumes (OR: 1.18, 95% CI: 1.05-1.32;  $p = 0.005$ ) were predictors of LAF. In LAF group, the frequency of AF episodes was correlated with ILeft-EMD ( $r = 0.90$ ,  $p < 0.001$ ) and IA-EMD times ( $r = 0.36$ ,  $p < 0.004$ ). (Table-1).

**Conclusion:** Atrial conduction and EMD times may increase in the early stages of AF even without left atrial dilatation and are clearly more valuable than left atrial area and volume in predicting AF, thus can be used in clinical practice.

Table-1 Comparison of left atrial conduction times calculated with echocardiography

	Patient Group (n=32)	Control Group(n=32)	P
Atrial Conduction Times			
MS (mitral septal)(msn)	45,2±15,4	34,6±7,2	<0,001
ML (mitral lateral)(msn)	66,9±18,2	49,6±8,9	<0,001
TL (tricuspid lateral)(msn)	42,2±16,7	37,5±6,9	0,28
Atrial EMD times			
ILeft-EMD (msn)	21,8±9,1	14,1±4,9	<0,001
IRight-EMD (msn)	9,3±6,8	5,9±4,9	0,03
IA-EMD (msn)	24,7±11,2	11,9±7,1	<0,001